
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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MANUFACTURED ABRASIVES IN THE THIRD QUARTER 1996

The U.S. Geological Survey (USGS) collects quarterly data on manufactured abrasives from producers through non-mandatory surveys. Manufactured abrasives included in this report are fused aluminum oxide, silicon carbide, and metallic abrasives. The USGS estimates unreported production.

Fused Aluminum Oxide

Production data for the third quarter of 1996 were collected from five companies operating ten plants in the United States and Canada. Reported production of regular-grade fused aluminum oxide in the third quarter was 31,800 metric tons valued at \$11.2 million, or \$352 per ton. Production during the same period of 1995 was 33,900 tons valued at \$12 million, or about \$354 per ton. Output of high-purity fused aluminum oxide in the third quarter was 10,800 tons. Production during the same period of 1995 was 8,980 tons.

Based on the rate of production thus far in 1996, the annual output of regular-grade fused aluminum oxide is projected to be approximately 132,000 tons valued at \$46.7 million; actual production in 1995 was 126,000 tons valued at \$45.2 million. Based on published production data, total 1996 output of high-purity fused aluminum oxide is projected to be 36,500 tons; annual production reached 33,100 tons in 1995.

According to the Bureau of the Census, imports of crude fused aluminum oxide through August 1996 were 42,800 tons valued at \$20 million, or \$467 per ton. Of the reported imports, 97% were from Canada. Imports of refined and ground fused aluminum oxide during the same time period were 27,300 tons valued at \$22.9 million, or \$837 per ton. The top four countries exporting the largest quantities of refined and ground material to the United States, in descending order, were China (44%), Canada (25%), Austria (13%), and Germany (9%).

Exports of fused aluminum oxide through August 1996 were 7,660 tons. The exports were valued at \$11.9 million, or \$1,560 per ton.

As of September 30, 1996, The National Defense Stockpile (NDS), contained 169,000 tons (186,289 short tons) of crude fused aluminum oxide valued at \$33.5 million and 30,171 tons (33,258 short tons) of fused aluminum oxide abrasive grain valued at \$15.8 million. However, the NDS goals for crude fused aluminum oxide and fused aluminum oxide abrasive grain are zero; all of the material is authorized by law for disposal.

During fiscal year 1996, which ended on September 30, the Department of Defense sold 27,216 tons (30,000 short tons) of crude fused aluminum oxide and 2,773 tons (3,057 short tons) of fused aluminum oxide abrasive grain. For fiscal year 1997, the Department of Defense plans to sell 27,216 tons (30,000 short tons) of crude fused aluminum oxide and 5,443 tons (6,000 short tons) of fused aluminum oxide abrasive grain.

Silicon Carbide

The USGS collects silicon carbide production data from four companies operating five plants in the United States and Canada. However, the data have been withheld from this report in order to protect company proprietary information.

Imports of crude silicon carbide through August 1996 were 127,000 tons valued at \$52.1 million. Imports from China were 99,900 tons valued at \$35.6 million. The average price of imported crude silicon carbide, excluding Chinese crude, was \$604 per ton. The average price of Chinese crude was \$357 per ton. Imports of refined and ground silicon carbide for the same period were 11,100 tons valued at \$16.3 million, or \$1,460 per ton. During the period, China and Canada were the largest suppliers of crude material, furnishing virtually all of the

tonnage with shares of 78% and 16%, respectively. In descending order, Brazil (56%), Norway (20%), and Germany (5%) were the largest suppliers of refined and ground silicon carbide.

Exports of crude silicon carbide through August 1996 were 337 tons valued at \$895,000. Exports of refined and ground silicon carbide for the period were 8,600 tons valued at \$9.7 million.

As of September 30, 1996, the National Defense Stockpile contained 20,852 tons (22,896 short tons) of silicon carbide valued at \$10.3 million; however, the stockpile goal was zero. Existing legislation authorizes disposal of all of the silicon carbide in the stockpile. The Department of Defense sold 4,082 tons (4,500 short tons) of NDS silicon carbide in fiscal year 1996, which ended on September 30. A ceiling on planned sales for fiscal year 1997, which began on October 1, is set at 4,082 tons but may be raised.

Metallic Abrasives

Metallic abrasives information was collected from twelve companies operating thirteen U.S. plants—six producing cut wire shot and seven producing steel shot and grit. During the third quarter of 1996, U.S. production of steel shot and grit was 54,900 tons, a 3% increase compared to the same period in

1995. Third quarter production was valued at \$24.2 million or about \$441 per ton. Based on the rate of production thus far in 1996, total annual output is projected to be about 242,000 tons valued at \$107 million; production in 1995 reached 234,000 tons valued at \$102 million.

Shipments of steel shot and grit in the third quarter were 54,900 tons valued at \$25.2 million, or \$459 per ton. Shipments during the third quarter of 1995 were 48,800 tons valued at \$21.7 million or \$445 per ton.

Third quarter production of other types of metallic shot and grit (annealed shot and grit, cut wire, and reclaimed shot and grit) was estimated to be 2,110 tons valued at \$4.1 million. Shipments were estimated to be essentially the same as the production quantity and value.

Imports of all types of metallic shot and grit through August 1996 were 13,900 tons valued at \$8.2 million, or \$588 per ton. Canada was the largest supplier accounting for 82% of the tonnage imported.

Exports of all types of metallic abrasive through August 1996 were 16,800 tons valued at \$10.4 million, or \$617 per ton. Exports for 1995 were 30,800 tons valued at \$16.1 million, or \$523 per ton.

If you have suggestions about how we can improve this report, please call (703) 648-7721.

TABLE 1
MANUFACTURED ABRASIVES 1/

(Metric tons unless otherwise specified)

Source and Product	1995				1996					
	Third quarter		Fourth quarter		First quarter		Second quarter		Third quarter	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
United States and Canada: Production										
Crude aluminum oxide:										
Regular: Abrasive and Refractories	33,900	\$12,000	30,700	\$10,700	33,200	\$12,100	33,700	\$11,800	31,800	\$11,200
High purity	8,980	4,220	10,700	W	W	W	7,440	4,130	10,800	6,100
Total	42,900	16,200	41,400	10,700	33,200	12,100	41,200	15,900	42,600	17,300
United States: Production										
Steel shot and grit	53,500	23,000	57,600	24,500	63,900	28,100	62,900	28,100	54,900	24,200
Other shot and grit 2/	W	W	1,720 e/	3,380 e/	2,070 e/	3,020 e/	1,880 e/	3,680 e/	2,110 e/	4,120 e/
Total	53,500	23,000	59,300	27,900	66,000	31,200	64,800	31,800	57,000	28,300
United States: Shipments										
Steel shot and grit	48,800	21,700	51,800	23,400	54,400	24,800	54,900	25,400	54,900	25,200
Other shot and grit 2/	W	W	2,210 e/	8,100 e/	2,630 e/	9,350 e/	1,880 e/	3,700 e/	2,120 e/	4,130 e/
Total	48,800	21,700	54,000	31,500	57,000	34,100	56,800	29,100	57,100	29,300

e/ Estimated. W Withheld to avoid disclosing company proprietary data.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes annealed shot and grit, cut wire shot, and reclaimed shot and grit from primary producers.